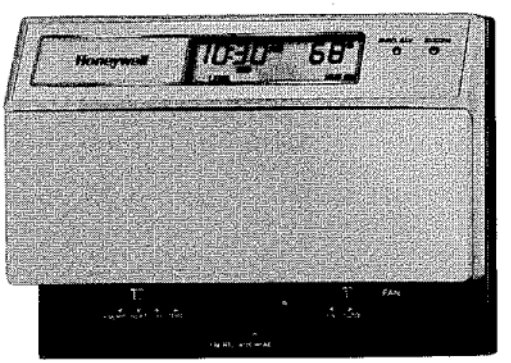
Honeywell

CT8611
Heat Pump Thermostat Wiring Guide



Honeywell

Home and Building Control
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Helping You Control Your World

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HOW TO USE THIS GUIDE

Before you disconnect the wires and remove your existing thermostat, make certain this new thermostat, see Figs. 1 and 2, will replace it and that you understand how you will reconnect the wiring. To do that, proceed as follows:

Step 1

Find the manufacturer of your heat pump in the Table of Contents, and turn to the appropriate page.

Step 2

Expose the wiring on your current thermostat (the subbase) and check that the terminals on your existing thermostat coincide with the terminals shown in the second column (Existing thermostat wiring).

If they do, read and follow the installation instructions provided with the thermostat.

If they do not, call Honeywell Customer Assistance toll free at 1-800-468-1502, Monday-Friday, 7:00 a.m. - 5:30 p.m. Central time, to make certain you can safely use this thermostat to control your heat pump.

Before you call, please have the following information available — thermostat model number and date code, heat pump model number and manufacturer, and number of wires connected to the thermostat. The date code is usually stamped on the back of the thermostat and is a four-digit number, e.g., 9346.

NOTICE: This equipment is a Class B digital apparatus, which complies with Canadian Radio Interference Regulations, CRC c. 1374.

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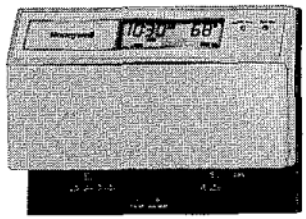
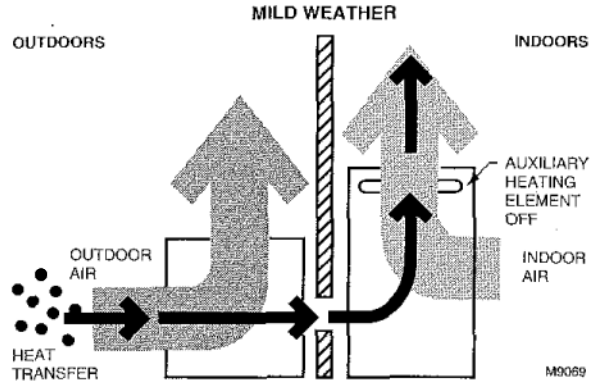
HEAT PUMPS ARE DIFFERENT



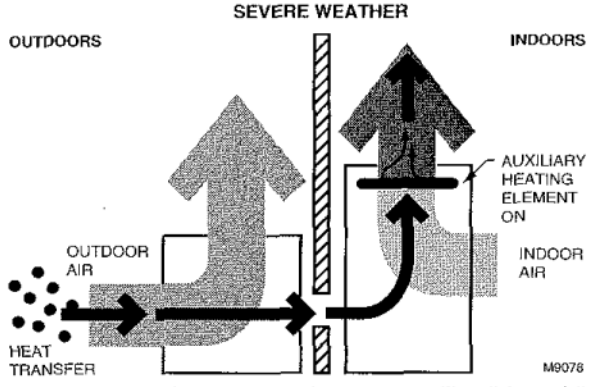
- *Heat pump systems usually have a supplemental, "second stage" heating system that operates only when necessary.* This heat pump thermostat is designed to minimize more expensive second-stage operation, indicated by the green AUX light on your switching subbase.

- *With this thermostat, you will notice that your compressor operates continuously during the recovery period.* This may appear to waste energy, but actually is more efficient. Multiple ON-OFF cycles are neither necessary to achieve comfort, nor are they as efficient for heat pump systems. By reducing the number of cycles, you reduce the strain on your system and extend equipment life.

HEAT PUMPS ARE TWO SYSTEMS IN ONE



In mild weather, virtually all of the demand for heat in buildings can be met by the heat pump compressor. This "First Stage" process of moving heat indoors is very economical. As the air becomes colder outside, the first stage may be unable to deliver enough heat to maintain the desired comfort level in the building.



During high heat demand, the thermostat will call for additional "Second Stage" power from the auxiliary heat system. This auxiliary heat is commonly electric "resistance" heat and is two to three times more expensive to operate than the compressor. If you have specific questions concerning the the operation of your heat pump, please contact the equipment manufacturer.

DEFINITIONS OF TERMINAL FUNCTIONS

Each terminal of the CT8611 controls a different heat pump function. Here is a listing of the possible heat pump functions:

Function	Definition
1ST STAGE HEAT:	When this terminal is activated, the heat pump is on and providing heating to the living space.
AUXILIARY HEAT:	When this terminal is activiated, the auxiliary heating source is on because the heat pump is unable to meet the heating demand of the living space.
1ST STAGE COOL:	When this terminal is activated, the heat pump is on and providing cooling to the living space.
COMPRESSOR:	When this terminal is activated, the heat pump is on and providing either heating or cooling to the living space, depending on the system switch position.
C/O VALVE HEAT:	Heating Changeover Valve. This terminal is activated when the system switch is in the HEAT position. It provides changeover in heat pumps that changeover in heating.
C/O VALVE COOL:	Cooling Changeover Valve. This terminal is activated when the system switch is in the COOL position. It provides changeover in heat pumps that changeover in cooling.
EM. HEAT:	Emergency Heat. This terminal is activated when the system switch is in the EM. HT position. In this situation, the heat pump will not be activated.
FAN:	When this terminal is activated, the fan is on. With the fan switch in the AUTO position, the fan cycles on and off with the heat pump. With the fan switch in the ON position, the fan is on continuously.
MULTIPLE AUX. HEAT LOADS:	This terminal is activated when additional auxiliary heat loads are required. Since the CT8611 only has provisions for one auxiliary heat load, these loads must be connected to the AUXILIARY HEAT terminal.
OUTDOOR SENSOR:	This terminal is not connected to the CT8611. On your original thermostat, this terminal was activated by an outdoor sensor that controlled the auxiliary heat source.
OUTDOOR STAT:	Outdoor Thermostat. This terminal is activated when the system switch is in the EM. HT. position. The outdoor thermostat controls the amount of auxiliary heat that will be activated.
POWER:	This terminal connects to the power side of the 24-volt transformer.
COMMON:	This terminal connects to the common side of the 24-volt transformer.
SYSTEM MONITOR:	Some heat pumps have the ability to indicate when the heat pump is malfunctioning. When this occurs, this terminal is activated and the CHECK LED is activated.

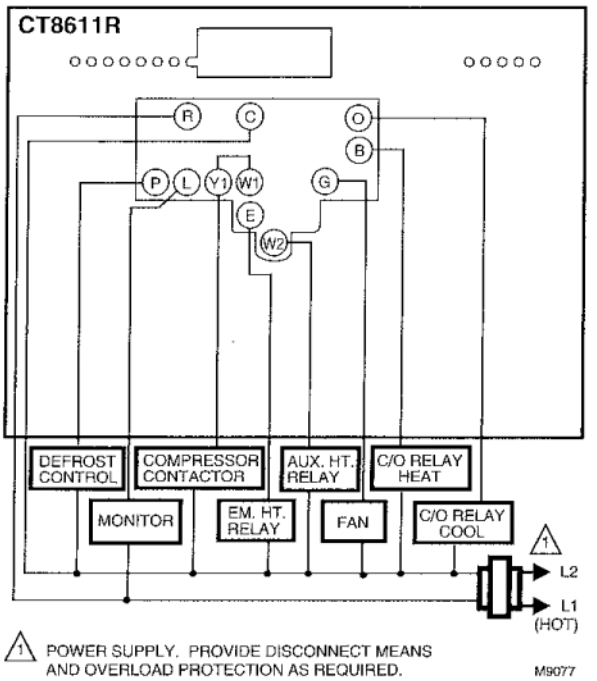


Fig. 1—Typical hookup of CT8611 with jumper intact.

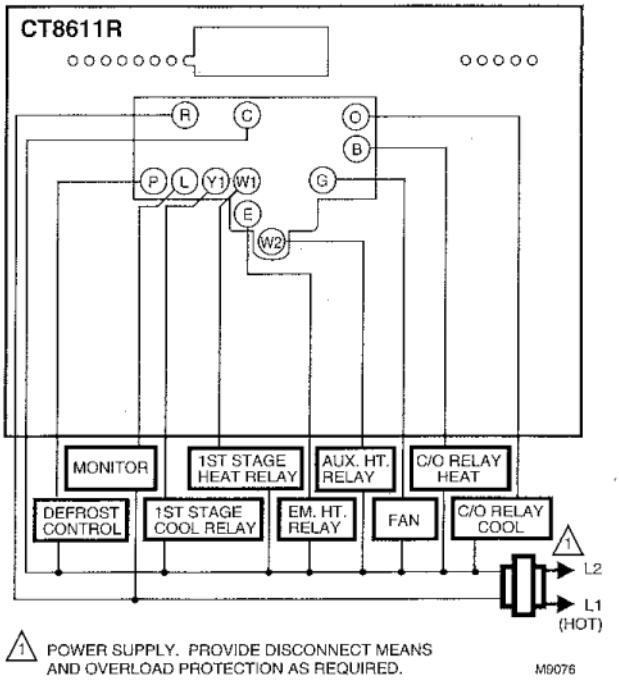
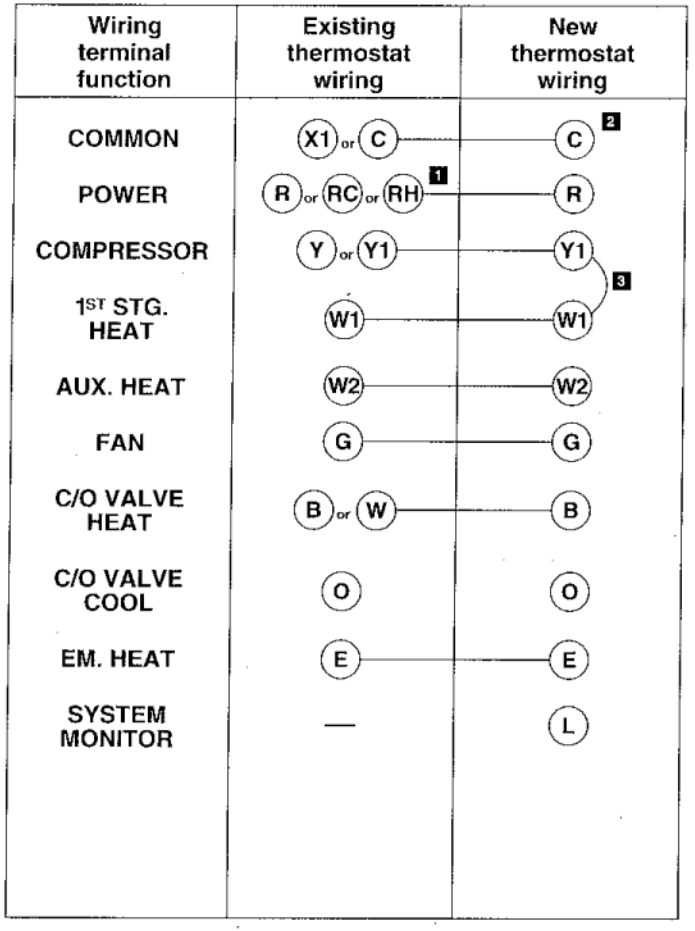


Fig. 2—Typical hookup of CT8611 with jumper removed.

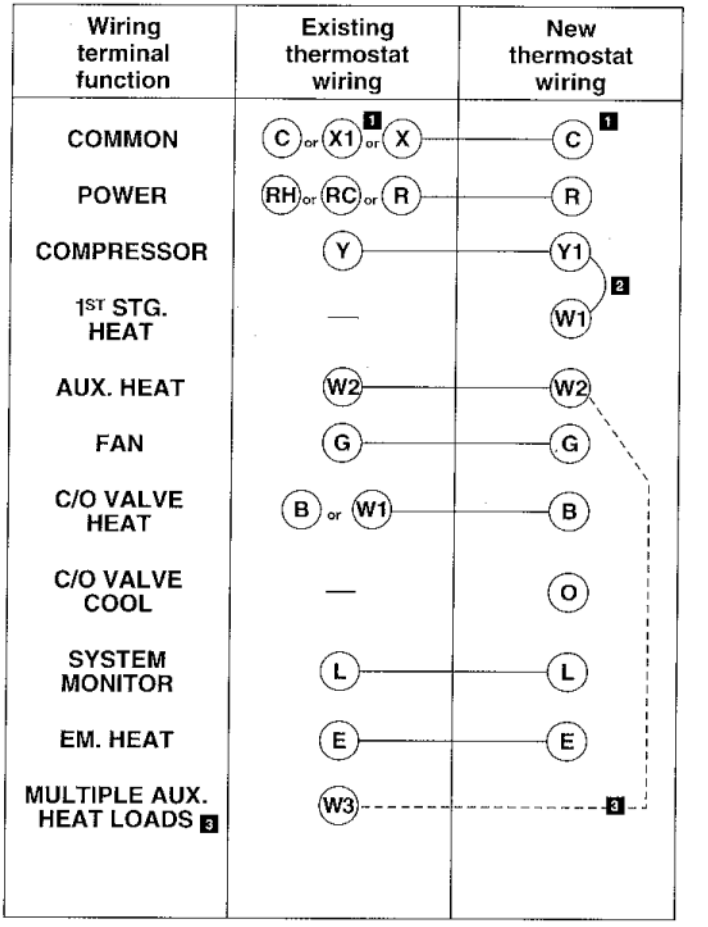
AMANA



Notes

1. Jumper these two terminals if both are present.
2. This terminal must be connected to transformer common.
3. Remove this factory-installed jumper for independent stage 1 heat and cool connection.

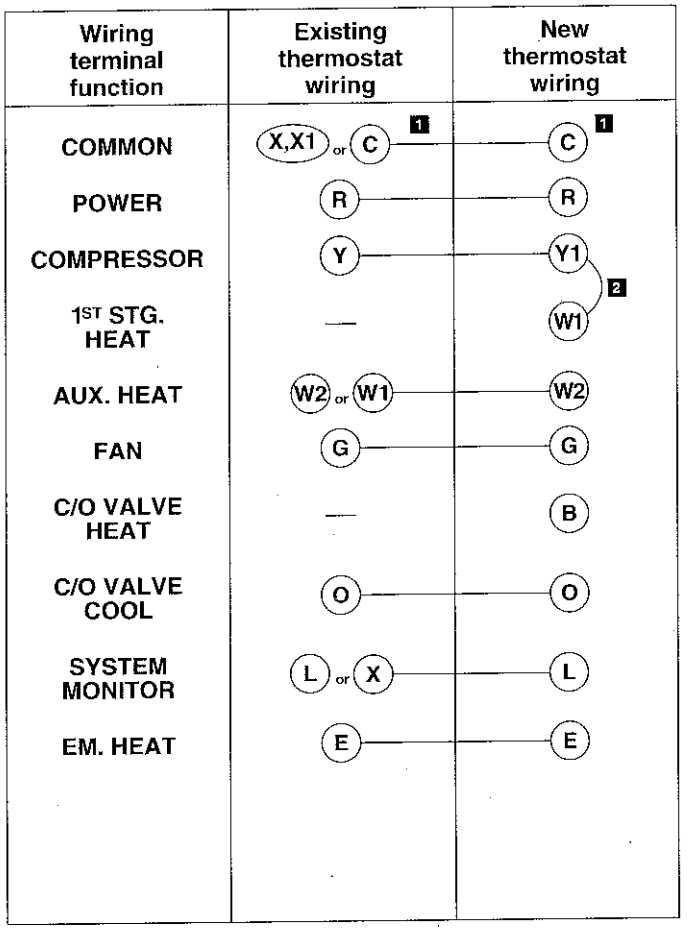
BARD/JANITROL/TAPPAN/WILLIAMSON



Notes

1. This terminal must be connected to transformer common.
2. Leave factory-installed jumper in place.
3. Connect multiple second stage heating loads to W2 terminals.

ARCOAIRE/SNYDER GENERAL/COMFORTMAKER

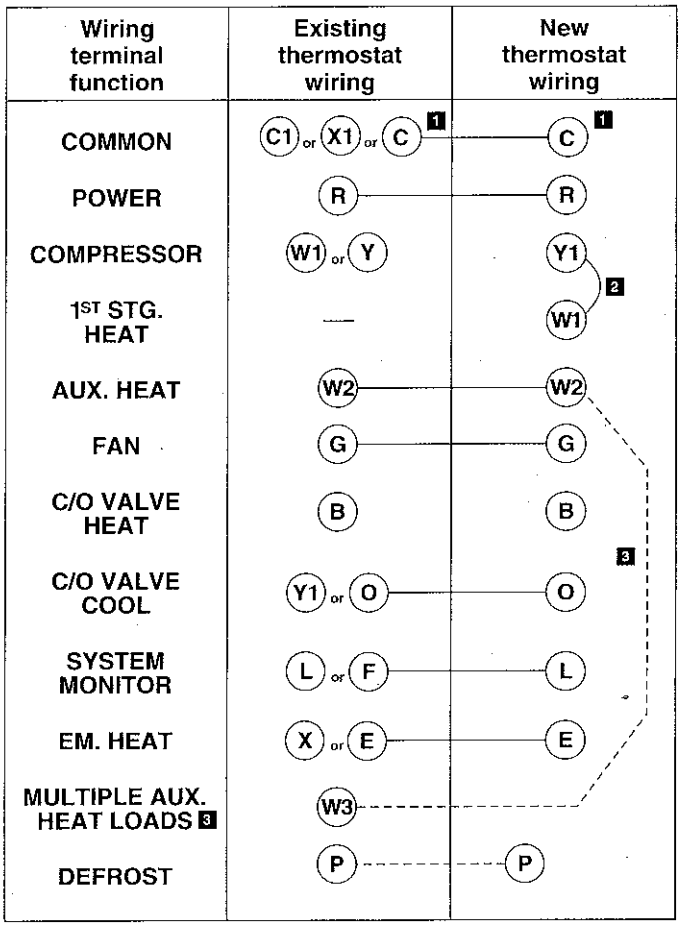


Notes

1 This terminal must be connected to transformer common.

2 Leave factory-installed jumper in place.

B.D.P. (BRYANT-DAY/NIGHT-PAYNE)



Notes

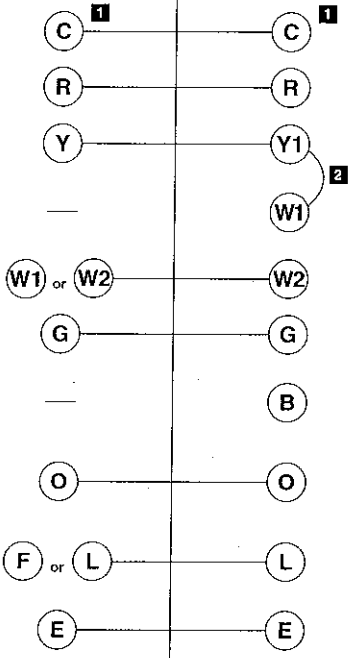
1 This terminal must be connected to transformer common.

2 Leave factory-installed jumper in place.

3 Connect multiple second stage heating loads to W2 terminals.

CARRIER

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	C [1]	C [1]
POWER	R	R
COMPRESSOR	Y	Y1 [2]
1ST STG. HEAT	—	W1 [2]
AUX. HEAT	W1 or W2	W2
FAN	G	G
C/O VALVE HEAT	—	B
C/O VALVE COOL	O	O
SYSTEM MONITOR	F or L	L
EM. HEAT	E	E

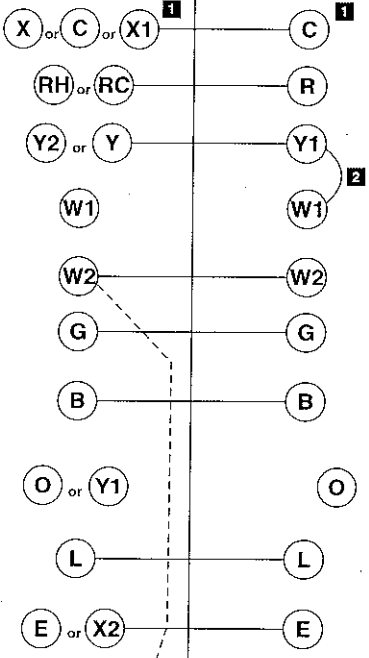


Notes

1. This terminal must be connected to transformer common.
2. Leave factory-installed jumper in place.

FRIEDRICH

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	X or C or X1 [1]	C [1]
POWER	RH or RC	R
COMPRESSOR	Y2 or Y	Y1 [2]
1ST STG. HEAT	W1	W1 [2]
AUX. HEAT	W2	W2
FAN	G	G
C/O VALVE HEAT	B	B
C/O VALVE COOL	O or Y1	O
SYSTEM MONITOR	L	L
EM. HEAT	E or X2	E
	W3 or U [3]	—



Notes

1. This terminal must be connected to transformer common.
2. Leave factory-installed jumper in place.
3. Tape off the end of the wire. Jumper is not required on this thermostat (CT8611).

HEIL QUAKER/WHIRLPOOL/TEMPSTAR

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	C or B	C [1]
POWER	R	R
COMPRESSOR	Y	Y1
1ST STG. HEAT	—	W1 [2]
AUX. HEAT	W	W2
FAN	G	G
C/O VALVE HEAT	B	B
C/O VALVE COOL	O	O
SYSTEM MONITOR	—	L
EM. HEAT	X	E

Notes

[1] This terminal must be connected to transformer common.
[2] Leave factory-installed jumper in place.

LENNOX

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	Y or X	C [1]
POWER	BL or V/VR	R
1ST STG. HEAT (COMP)	R or M	W1
1ST STG. COOL	—	Y1 [2]
2ND STG. HEAT	O or Y	W2
FAN	Y or F	G
C/O VALVE HEAT	—	B
C/O VALVE COOL	BK or R	O
SYSTEM MONITOR	—	L
EM. HEAT	E	E

Notes

[1] This terminal must be connected to transformer common.
[2] Leave factory-installed jumper in place.

RHEEM/RUUD

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	X [1]	C [1]
POWER	R	R
COMPRESSOR	Y	Y1
1ST STG. HEAT	—	W1 [2]
AUX. HEAT	W2	W2
FAN	G	G
C/O VALVE HEAT	B	B
C/O VALVE COOL	O	O
SYSTEM MONITOR	L	L
EM. HEAT	E	E

Notes

1. This terminal must be connected to transformer common.
2. Leave factory-installed jumper in place.

TRANE/AMERICAN STANDARD

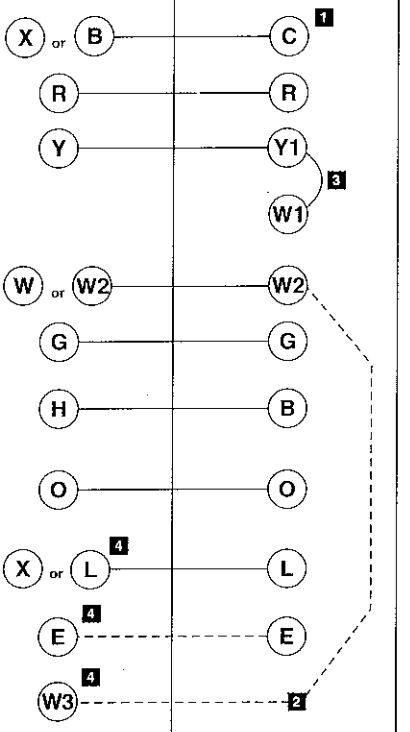
Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	B [1]	C [1]
POWER	R	R
1ST STG. HEAT	Y	W1 [2] Y1
AUX. HEAT	W1 or W	W2
FAN	G	G
C/O VALVE HEAT	—	B
C/O VALVE COOL	O	O
SYSTEM MONITOR	F or L	L
OUTDOOR SENSOR	T	[3]
OUTDOOR STAT	W2 or X2	E

Notes

1. This terminal must be connected to transformer common.
2. Leave factory-installed jumper in place.
3. Tape off end. CT8611 replaces outdoor reset with improved zero droop performance.

YORK/BORG WARNER/LUXAIRE (MONCRIEF, FRASER, JOHNSTON)

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	X or B	C [1]
POWER	R	R
COMPRESSOR	Y	Y1
1ST STG. HEAT		W1 [3]
AUX. HEAT	W or W2	W2
FAN	G	G
C/O VALVE HEAT	H	B
C/O VALVE COOL	O	O
SYSTEM MONITOR	X or L [4]	L
EM. HEAT	E [4]	E
MULTIPLE AUX. HEAT LOADS	W3 [4]	[2]

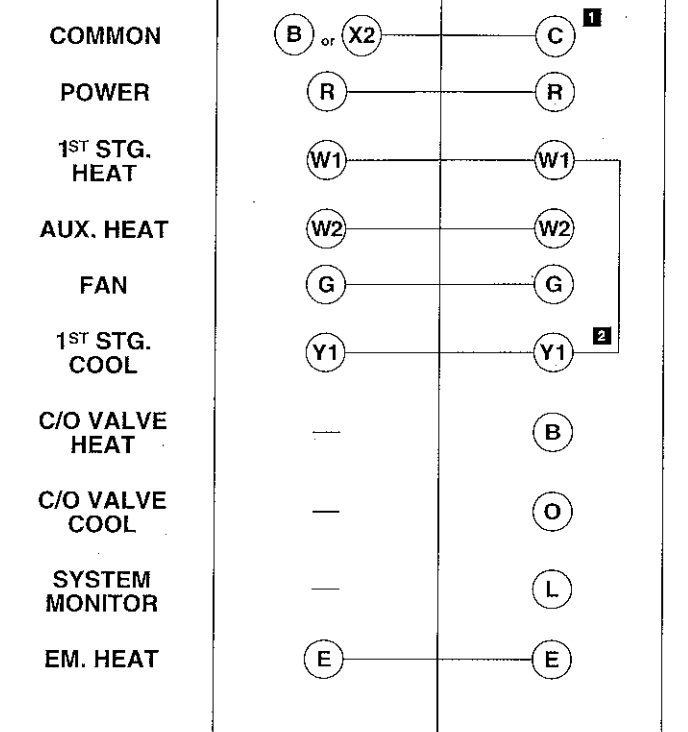


Notes

1. This terminal must be connected to transformer common.
2. Connect multiple second stage heating loads to W2 terminals.
3. Leave factory-installed jumper in place.
4. If present on original equipment

YORK/BORG WARNER

Wiring terminal function	Existing thermostat wiring	New thermostat wiring
COMMON	B or X2	C [1]
POWER	R	R
1ST STG. HEAT	W1	W1
AUX. HEAT	W2	W2
FAN	G	G
1ST STG. COOL	Y1	Y1 [2]
C/O VALVE HEAT	—	B
C/O VALVE COOL	—	O
SYSTEM MONITOR	—	L
EM. HEAT	E	E



Notes

1. This terminal must be connected to transformer common.
2. Remove factory-installed jumper.